

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings of claims in the application.

Listings of Claims:

1 – 13 (Cancelled)

14. (Currently Amended) A manufacturing method for a thin film magnetic head, comprising:

(a) a step for depositing a recording portion composed of a lower magnetic pole layer, a gap layer, and an upper magnetic pole layer formed by continuous plating in that order from the bottom on a lower core layer,

wherein the gap layer is formed of a nonmagnetic metal material, and wherein the gap layer is one material or two or more different materials selected from among NiP, NiPd, NiW, NiMo, Au, Pt, Rh, Pd, Ru, and Cr~~of a magnetic pole layer and a gap layer on a lower core layer;~~

(b) a step for depositing a coil insulating layer on the a lower core layer at the rear of the recording portion in a height direction;

(c) a step for etching the coil insulating layer exposed with a limit so that a surface of the lower core layer is not reached, thereby to form a coil forming groove in the coil insulating layer;

(d) a step for embedding a conductive material in the coil forming groove formed in the coil insulating layer in the step (d), thereby to form a coil layer in the coil forming groove;

(e) a step for etching the coil layer and the coil insulating layer such that, when an upper surface of the recording portion is defined as a reference plane, an upper surface of the coil insulating layer and an upper surface of the coil layer are flush with the reference plane; and

(f) a step for depositing an insulating layer on the coil layer and the coil insulating layer, then depositing an upper core layer extending from a top of the insulating layer to an upper surface of the recording portion.

15. (Currently Amended) A manufacturing method for a thin film magnetic head according to Claim 14, comprising a step shown below between the step (b) and the step (d):

(i) a step for etching the coil insulating layer until it the upper surface of the coil insulating layer becomes flush with the upper surface of the recording portion.

16. (Currently Amended) A manufacturing method for a thin film magnetic head according to Claim 14, comprising steps shown below in place of the step (a) and the step (b):

(j) a step for depositing thea coil insulating layer on a the lower core layer;

(k) a step for forming a groove in the coil insulating layer in the height direction from a surface facing a recording medium; and

(l) a step for forming the recording portion composed of the lower magnetic pole layer, the gap layer, and the upper magnetic pole layer formed by continuously plating in that order from the bottom. a magnetic pole layer and a gap layer in the groove.

17 – 22 (Cancelled)

23. (Currently Amended) A manufacturing method for a thin film magnetic head according to Claim 14, wherein, to deposit the coil insulating layer on the lower core layer, an insulating under-layer is deposited on the lower core layer beforehand, and the coil forming groove is concavely formed in the coil insulating layer in the step (d) within a the limit at which a surface of the insulating under-layer is exposed.

24. (Original) A manufacturing method for a thin film magnetic head according to Claim 14, wherein the coil insulating layer is formed of an inorganic insulating material.

25. (Previously Presented) A manufacturing method for a thin film magnetic head according to Claim 14, wherein, in the step (f), after the insulating layer is deposited on the coil layer and the coil insulating layer, a second coil layer to be electrically connected to the coil layer is deposited on the insulating layer, then the upper core layer is deposited on the second coil layer via the insulating layer.

26 – 28 (Cancelled)